

# NEBRASKA HEALTH AND HUMAN SERVICES SYSTEM



DEPARTMENT OF SERVICES • DEPARTMENT OF REGULATION AND LICENSURE • DEPARTMENT OF FINANCE AND SUPPORT

## **NEBRASKA'S PUBLIC WATER SYSTEM CAPACITY DEVELOPMENT STRATEGY REPORT TO THE GOVERNOR**

**September 30, 2005**

**Nebraska Health and Human Services System  
Department of Regulation and Licensure  
Public Health Assurance Division  
Environmental Health Services Section**

## Table of Contents

Executive Summary .....	1
Overview Of Capacity Development Requirements .....	2
Capacity Development Strategy Developmental Process .....	3
Elements Of Nebraska's Capacity Development Strategy For Public Water Systems ....	3
Element 1: Public Water System Information Collection .....	4
Element 2: Intergovernmental Collaborative Functions .....	5
Element 3: Public Water System Training .....	10
Measuring The Success Of The Capacity Development Strategy .....	15
Attachment A: 2000 Sanitary Survey Data	
Attachment B: Sample Letter Requesting Water Well Registration	
Attachment C: Sample Letter Recommending Water System Disinfection	
Attachment D: 2005 Revised Capacity Development Strategy	
Attachment E: 2005 Training Coalition Calendar	
Attachment F: Water Operator Reimbursement Grant Fact Sheet	

## **EXECUTIVE SUMMARY**

The 1996 amendments to the federal Safe Drinking Water Act require states to adopt a strategy for ensuring that new community public water systems have the required technical, financial and managerial capacities to provide safe and adequate water to their consumers. The amendments also require states to develop a strategy to help existing public water systems to develop and achieve technical, financial and managerial capacity. This report to the Governor is required every three years to advise the Governor of the results of the efforts that are being made toward this end. The first such report was furnished in 2002. The Department has contracted with other groups to provide assistance to public water systems.

We have noted in the past three years that public water systems have fewer deficiencies when they are inspected. Almost every water system has a certified operator, compared to much lower rates a few years ago. Security is being addressed through the use of an Emergency Operations Plan template that was developed by the Department and has been made available to public water systems. Water quality health based violations have dropped and are on a steady decline.

The largest identified need is in the training of owners of public water systems of their responsibility under both the state and federal Safe Drinking Water Act. Much of this need is because boards and councils change often, so that continuing education of these groups is needed. The Department has made a video, and plans to make more in the future, to disseminate among boards, councils and other groups of owners.

A group of stakeholders will meet annually to review the progress being made in the area of capacity development, and to make suggestions for any changes that might be needed. The Department will continue to work with public water systems to help them obtain and maintain the needed technical, financial and managerial capacity necessary to properly operate a public water system.

## OVERVIEW OF CAPACITY DEVELOPMENT REQUIREMENTS

In 1996, Congress reauthorized the Safe Drinking Water Act and added several amendments to the Safe Drinking Water Act at that time. Some of these amendments included a requirement that each state develop a strategy applicable to its public water systems (systems) that is designed to assist new and existing systems in developing and achieving technical, financial and managerial capacity. The amendments created a two step process in order for a state to achieve this. The first was the development of a state regulation that requires all new community systems (cities, towns, villages, mobile home courts, etc.) and non-transient non-community systems (rural schools, factories, meat processing plants, etc.) constructed after October 1, 1999, to be able to demonstrate that they have met specific capacity requirements before they are issued a permit to operate a public water supply system. The purpose of this requirement was to prevent new systems from becoming tomorrow's enforcement problems.

The second requirement of the 1996 Safe Drinking Water Act amendments with regard to capacity development was that each state was to develop a strategy that would outline the state's efforts in helping existing systems develop and achieve capacity. Unlike the requirements for new systems, there were no regulatory requirements attached to the strategy's development. However, failure to develop a Capacity Development Strategy for existing systems would result in 20% of the state's Drinking Water State Revolving Fund being withheld for that fiscal year. The first Report to the Governor in 2003 addressed the development, implementation, and future direction of the original strategy. This report addresses progress made and improvements seen as a result of the strategy implementation since the first report to the Governor, as well as a recap of the development and implementation discussion of the first report.

In developing the regulatory requirements that directed each state's Capacity Development Strategy, the United States Environmental Protection Agency (U.S. EPA) specified five elements the strategy must address. These elements include:

- A. How to identify systems in need of technical, financial and managerial assistance.
- B. Determining of factors that enhance or impair a systems capacity development.
- C. Recommendations on how the state can use its authority and resources to help systems improve capacity.
- D. How to measure the success of a state's Capacity Development Strategy.
- E. Strategy must include public involvement in its development.

With these elements in mind, Nebraska moved forward to develop the State of Nebraska's Capacity Development Strategy. The major objectives of our Capacity Development Strategy are to: 1) collect useful information about a systems capacity, 2) develop effective working relationships with the Technical Assistance providers in Nebraska, 3) educate the general public, owners and operators of systems and train system operators, 4) encourage land use planning to protect the quality of groundwater, 5) require the use of water meters on system wells and service connections, and 6)

track the general compliance with the regulations under which systems are governed. All of these objectives are aimed at helping systems obtain and maintain capacity. Capacity refers to the sustained ability of a system to provide an adequate supply of safe drinking water to its consumers on a continuous basis, to take care of its own problems when they arise, and to achieve compliance with all existing and upcoming regulations. A systems capacity should reflect a need for a minimal amount of reliance on outside sources of assistance for all but the most desperate of situations.

## **CAPACITY DEVELOPMENT STRATEGY DEVELOPMENTAL PROCESS**

Beginning in 1999, the Department conducted several meetings with a committee of stakeholders regarding how the Capacity Development Strategy for Nebraska should be developed and implemented. This committee was instrumental in developing the primary criteria for the strategy and has been an integral part in determining the future direction of the strategy. A copy of the Final Report of Findings, which was included as Attachment A with the first Report to the Governor in 2002, goes into great detail regarding how the strategy was actually developed and what individuals, agencies and organizations/associations were invited to participate.

In May 2000, the Department issued the Report of Findings in conjunction with the Environmental Finance Center at Boise State University in Idaho (EPA sub-contractor) who helped facilitate the development of the strategy components. Based on the report, the Department developed its Capacity Development Strategy for Existing Public Water Supply Systems, which was included as Attachment B with the first Report to the Governor in 2002. The strategy was submitted to U.S. EPA in June 2000 and received final EPA approval on September 14, 2000. This strategy is now an integral part of Department activities and serves as the cornerstone for the future of Nebraska's Public Drinking Water Program as it incorporates the general characteristics of strategic planning, and the future effects of current decisions, processes, and prevention philosophy into the program.

## **ELEMENTS OF NEBRASKA'S CAPACITY DEVELOPMENT STRATEGY FOR PUBLIC WATER SYSTEMS**

Nebraska's Capacity Development Strategy for Existing Public Water Supply Systems was implemented on January 1, 2001. Since then several activities concerning public water systems technical, financial and managerial capacity have been tracked and quantified. These items are identified in the attachments to this report.

On August 29, 2002, August 28, 2003 and again on September 1, 2005, the Department conducted follow-up meetings of the original stakeholder group to discuss how the strategy is progressing and what potential changes should be made to make the individual strategy elements more effective. During the 2002 and 2003 meetings several items were identified as possible changes but the suggested changes were not incorporated into the strategy. This was in large part due to a personnel change (December 2002) in the position responsible for oversight of the Capacity Development

implementation and unfamiliarity with the needs of the program. Since that time the Capacity Development coordinator has become very familiar with the needs and direction of the program and has gotten on track with the necessary changes. During the stakeholder meeting held on September 1, 2005, three (3) items were again identified as possible changes to the strategy. The identified items are:

1. Element 1 (Public Water System Information Collection) needs to be fully implemented in the area of assessing a public water systems financial capacity.
2. Item 5 (Local Land Use Planning) of Element 2 (Intergovernmental Collaborative Functions) needs to be revised to focus more attention on the economic impact on small water systems when county planning commissions are discussing future plans for development.
3. Item 2 (Public Water System Owner Training) of Element 3 (Public Water System Training) needs to be revitalized in order to focus more attention on the board members of small water systems in educating them on what needs to be involved in running and managing a water system.

The strategy has been modified to include these identified needs. A copy of the revised Strategy is included with this report as Attachment D. Following are discussions about the current status of the different Elements of the State's Capacity Development Strategy.

### **Element 1: Public Water System Information Collection**

Early in the development phase of the strategy, both the stakeholders and the Department realized there was a significant need to collect more complete data on systems in order to assess what type of assistance there is the greatest need for. Currently, routine sanitary surveys of community water systems and non-transient non-community water systems are conducted once every three (3) years utilizing the enhanced sanitary survey and the information collected consists mainly of technical issues centered on water system regulatory compliance. Managerial information is assessed by noting if management has taken the necessary steps to stay in compliance with the applicable regulations.

Though public water system financial data (operating budgets) is gathered no one has been looking at or analyzing the data to determine the financial capacity of the systems. At the September 1, 2005 stakeholder meeting, it was decided to obtain data from the Nebraska State Accounting office and use a financial assessment tool provided by the Environmental Finance Center at Boise State University in Idaho to determine financial capacity.

Even though the enhanced survey was implemented in 2001 Department field staff were not entering the information into the currently used Safe Drinking Water Information System/State database so all data had to be tracked by hand in tabular format on a computer based Excel spreadsheet. Beginning January 1, 2003, all Department field staff were directed to enter all survey deficiency data directly into the

database. This has greatly enhanced the Department's ability to identify, quantify and target common problems noted during surveys. An analysis of the survey information from January 1, 2000 until December 31, 2004 is included as Attachment A of this report.

## **Element 2: Intergovernmental Collaborative Functions**

There are several groups that the Department utilizes to help assist Nebraska's public water systems in acquiring capacity. Some of these groups serve under contracts that utilize money from the Drinking Water State Revolving Fund that is specified for capacity development activities while others consist of coalitions of several agencies to perform other capacity building activities. The underlying goal of all of these entities is the same, to help systems develop capacity. Following is a list of these groups, organizations, and coalitions and a brief description of their responsibilities:

1. **Nebraska's 2% Technical Assistance Team:** The following entities were under contract with the Department to provide capacity building assistance to public water systems based on what each individual entities strengths are. As of the writing of this report (State Fiscal Year 2006), the Department has contracts with only three (3) of these entities. Those are Midwest Assistance Program, Nebraska Environmental Training Center and Nebraska Section American Water Works Association. The Nebraska Rural Water Association chose not to renew their contract for State Fiscal Year 2006. The capacity building activities offered by these Technical Assistance Team Members are financed through the use of the 2% technical assistance set-aside of the Drinking Water State Revolving Fund with individual one-year contracts. These members meet with the Department a minimum of once every two months to discuss what needs different systems may have and which entity or group of entities could best provide the necessary assistance. The goal is that once the capacity needs have been identified for individual systems, the proper assistance is not only given to correct the problem, but the system is taught what is needed for long-term permanent solutions. The current members of the 2% Technical Assistance Team are as follows:
  - a. **Nebraska Rural Water Association:** Even though the Department does not have a current contract with the Association they are still viewed as an integral part of the 2% Technical Assistance Team. The old contracts with the Nebraska Rural Water Association were for the use of one full-time employee. The contractual requirements for the Nebraska Rural Water Association outlined that their primary responsibility to systems was for assistance in developing primarily technical and managerial capacity through on-site visits. The Nebraska Rural Water Association has significant experience in providing information on water rate studies, installation of water meters, and assisting in evaluating different operational and managerial alternatives. Since the Capacity Development Strategy was officially implemented in January 2001, the Nebraska Rural Water Association has offered assistance through on-site visits, regarding capacity development activities, to over 500 systems. The bulk of this assistance was to

small water systems in dealing with sanitary survey deficiencies and helping to decide the best way to correct the deficiencies to achieve a permanent solution. The Nebraska Rural Water Association has also played a significant role in providing educational opportunities for water operators and system owners, which will be discussed in more detail later in this report.

- b. **Midwest Assistance Program:** As with the Nebraska Rural Water Association, the Department funds one full-time employee through a contract utilizing the 2% Drinking Water State Revolving Fund set-aside. Midwest Assistance Program's primary function is helping water systems develop financial and managerial capacity through identifying funding sources, walking systems through the funding process and performing financial and managerial assessments of public water systems. This includes responsibility for assisting systems in procuring engineering services, providing water rate analysis and helping to review alternative options for system management. To date, Midwest Assistance Program has provided on-site assistance to over 120 of Nebraska's small public water systems, and the bulk of their time has been spent on systems that have been identified on the Drinking Water State Revolving Fund Priority Funding List. This activity, which is coordinated through the Department's Engineering Services Program, has a primary goal of providing small systems the guidance and assistance necessary to help ensure that priority projects are funded before other projects on the priority funding list. In order to ensure that priority projects are being funded, the Department, Midwest Assistance Program and the Nebraska Department of Environmental Quality meet on a weekly basis to discuss each system on the priority list and where they are in the process of being funded. Midwest Assistance Program, through its contract with the Department, has been directed to perform financial and managerial assessments of all systems requesting funding through the Drinking Water State Revolving Fund program. These assessments are to be focused on the water system and how it is funded and managed. When deemed necessary, through analysis of the assessment information, financial and/or managerial goals will be developed and suggested to the public water systems as a means by which it can increase and improve its capacity. These assessments will be revisited when the projects for which the loans were sought are completed and the public water system has had a chance to implement the identified and suggested goals.
- c. **Nebraska Environmental Training Center:** The Nebraska Environmental Training Center's contract is service oriented. The Nebraska Environmental Training Center has been charged with providing hands-on training involving different treatment techniques such as disinfection, fluoridation, iron and manganese removal, and others. This training and assistance is offered at no cost to the systems. Though not included as a contract activity, the Nebraska Environmental Training Center provides training to individuals on developing effective and on-going cross-connection control programs and for Grade VI water operator certification training.



- d. **Nebraska Section of the American Water Works Association:** The Nebraska Section of the American Water Works Association contracts with the Department to provide technical and training manuals to small public water systems free of charge. Over 280 technical manuals and training videos on subjects such as distribution systems, treatment methods, and cross-connection control have been used to provide training to the operators of small systems. Part of the contract requires the Nebraska Section of the American Water Works Association to develop and implement a mentoring program through which operators from large systems offer on-site assistance to water operators of nearby small systems in all areas of water system operation. If utilized, Nebraska Section of the American Water Works Association mentors can be reimbursed for expenses and mileage. While the mentoring program is not being utilized as much as was hoped, mostly due to a lack of awareness by small systems, the program has mentors available statewide and is ready to give whatever assistance may be needed. A presentation of approximately 30 minutes in length is given at the Nebraska Section of the American Water Works Association's annual fall conference, extolling the benefits and availability of this program. Notices about this program are provided not only at the Nebraska Section of the American Water Works Association's yearly conference but also in the Department's water operator publication, *The Water Spout*.
- e. **League of Nebraska Municipalities:** In conjunction with the Department, the League of Nebraska Municipalities developed a short videotape that is designed specifically to educate system owners regarding their management responsibilities as system owners. The Department has recognized through survey findings and through reports from individuals providing on-site technical assistance, that the owner's lack of knowledge is a major limiting factor in developing management capacity for small systems. The goal of this videotape is to provide an introduction to management responsibilities and to open the door for more in-depth training on a voluntary basis. These videotapes became available for use in 2003. So far, over 150 video tapes and DVD copies of the video have been made and distributed to systems and to the members of the Training Coalition for use as a stand-alone educational tool or in conjunction with on-site capacity development activities. As a side note, the Department has received national recognition for this video and its efforts in this field. The American Water Works Association has requested and obtained permission from the Department to use this video to develop a video that would be applicable on a nation wide basis. Funding for the production of this first video came from the Drinking Water State Revolving Fund 2% set-asides. The Department has undertaken the development of 5 additional follow-up video productions to deal with the remaining capacity development issues, financial and technical. There will only be one financial video. The technical videos will be focused on distribution systems, water treatment and cross-connection control. These videos are expected to be completed by late spring 2006. As with the first video, these videos will be given to the Training Coalition members for use as training

aids and offered to water systems for their use, at no cost to the systems or trainers.

2. **Water/Wastewater Advisory Committee:** This committee is comprised of several State of Nebraska and federal agencies whose purpose is to streamline the funding process for water and wastewater projects, and to ensure that projects that are listed on the Drinking Water State Revolving Fund Priority Funding List have the opportunity to be funded first. The agencies involved with the Water/Wastewater Advisory Committee include the following: Nebraska Department of Health and Human Services Regulation and Licensure, Nebraska Department of Environmental Quality, United States Department of Agriculture Rural Development, and Nebraska Department of Economic Development. By developing a common pre-application for projects under consideration and having all of the funding agencies around the table to review the application at the same time, the time required to review and approve projects is reduced.
3. **Nebraska Environmental Partnerships Program:** The Nebraska Environmental Partnerships Program is administered by the Nebraska Department of Environmental Quality utilizing set-aside dollars from the Drinking Water State Revolving Fund Source Water Assessment Program for public water system planning grants. The Nebraska Environmental Partnerships Program supports capacity development activities by having the ability to provide grants to small systems to complete preliminary engineering reports. A preliminary engineering report for a small system is required to be completed before the common Water/Wastewater Application Committee pre-application is reviewed and funding for a project is considered. Often this need is identified through Midwest Assistance Program when providing on-site financial assistance and then coordinated by Midwest Assistance Program and the Nebraska Environmental Partnerships Program. Again, the goal of this cooperative effort is to keep those systems on the Drinking Water State Revolving Fund Priority Funding List moving through the necessary steps to assure that high priority projects are funded in a timely fashion.
4. **State and Public Information Programs:** One of the items that the Capacity Development Strategy committee felt there was a strong need for was a more enhanced public education program by the Department. In order to meet this requirement of the strategy, the Department continues to have a public presence through offerings of free drinking water nitrate testing during the Nebraska State Fair and Husker Harvest Days. The Department also participates in the Children's Groundwater Festival, and the development and distribution of individual system information required in the public water system's annual consumer confidence report.
5. **Local Land Use Planning:** In order for small systems to remain in compliance for the long term, the issue of land use planning to protect public water system's source water is one that must be addressed. Because of the complexity of the issue, there are no easy, obvious solutions. This strategy element is not workable in its current

form. During the August 29, 2002 stakeholder meeting several new ideas were presented by the group that were to be incorporated into the strategy. Those ideas were for the Department to:

- a. Enhance and facilitate more communication between the Natural Resources Districts and the Department to include drinking water considerations into each District's groundwater management plan.
- b. Volunteer to participate and speak at the Nebraska Association of Resources Districts annual meeting concerning land use planning and public water systems.
- c. Increase the Natural Resources Districts involvement with the Department in regards to drought issues concerning water quality and quantity issues.
- d. Approach county planning officials in those counties that are growing at a rapid rate to address unmanaged growth of subdivisions and developments. This will help ensure that small public water systems approved for a specified number of water services do not grow beyond those numbers without expanding their water system capacity.
- e. Utilize the League of Nebraska Municipalities to work with the Nebraska Planning and Zoning Administrators Association to bring these issues before them and offer suggestions as to what they can do to help protect and ensure the sustainability of public water systems.

Though this facet of the strategy has been slow to materialize, the Department plans to renew its efforts to embark on an active effort to become an integral part of land use planning. During the September 1, 2005 stakeholder meeting, a need to take into account the financial base for public water systems when county planning/zoning commissions are developing their plans for expansion and growth was identified. Because the focus seems to be placed on the larger communities in any given county and not on the small communities, the tax/fee base for these small systems is dwindling to a point where they do not have enough customers to be able to become or remain a viable self-sustaining system. This situation leads to one obvious conclusion, these small systems are going to become or remain an enforcement problem for the state. This is based on the realization that these systems, even though they may have the necessary managerial and technical capacity, will probably not be able to develop enough financial capacity to "pay their own way." Without the financial capacity they cannot keep qualified operators and the technical operation of their systems suffers as a result.

6. **The Requirements for Water Meters:** This aspect of the Capacity Development Strategy was officially implemented with the fiscal year 2002 Drinking Water State Revolving Fund Intended Use Plan. This requirement states that if a system uses Drinking Water State Revolving Fund money for a project, it will be required to install

water meters as part of the project if it is an un-metered system. This brought the Department in line with the requirements of the other lending agencies and bolsters the Department's stance that the installation of water meters has been constantly demonstrated to serve as a management and conservation tool without decreasing revenue. However, not having meters installed does not automatically preclude a system from receiving Drinking Water State Revolving Fund money because there are exemptions from this requirement if the system can meet certain criteria. One of the criteria is that the system must be able to demonstrate that the addition of meters would create an economic impairment whereby the cost of installation would exceed the potential benefit.

### **Element 3: Public Water System Training**

While the first two elements discuss on-site capacity development activities, Element 3, public water system training, is probably the most important activity of the strategy. This is the element where the Department must succeed in order to ensure the long-term viability of Nebraska's public water supply systems.

Training is separated into two distinct categories. The first section deals with system operator training strategies and efforts the Department is making to enhance public water systems technical and managerial capacity. The second section deals with system owner training strategies and describes how the Department is working to increase system managerial and financial capacity.

1. **Water Operator Training:** Beginning in January 2001, new regulations regarding the certification of water operators in the State of Nebraska became effective. These same regulations were updated again on October 3, 2004. As with the Capacity Development Strategy for Existing Public Water Systems, these changes were required under the 1996 reauthorization of the Federal Safe Drinking Water Act. Though not tied to state primacy, this regulation was subject to Drinking Water State Revolving Fund withholding if not implemented. Several changes regarding how the Department conducts its water operator training were initiated in cooperation with Nebraska's water operator training partners known as the Nebraska Water Operator Training Coalition.
  - a. **Nebraska Water Operator Training Coalition:** The Training Coalition consists of the Nebraska Rural Water Association, Midwest Assistance Program, Nebraska Section of the American Water Works Association, Nebraska Environmental Training Center, and the League of Nebraska Municipalities. These organizations provide the on-going continuing education that water operators are required to complete to retain their water operator certification. The material and training curriculum must be approved by the Department to receive continuing education credit. Because the Training Coalition is the same as the 2% Technical Assistance Team, the course curriculum being used for training is often changed to reflect what the current needs are in regards to technical and managerial capacity. For example, if on-going surveys show a

particular deficiency, such as systems not having the required updated emergency response plan, the Training Coalition will then adjust the training agendas to meet that specific need. By doing this, the Department can address identified repetitive needs quickly and do so in a manner that can be addressed uniformly with all systems.

The Training Coalition, along with the Department, is also responsible for developing and distributing the Nebraska Water Operator Training Calendar. The 2005 calendar, included as Attachment E to this report, is mailed to all certified public water system water operators and lists all of the training events for the entire coming year. However, there may be special training opportunities scheduled on short notice throughout the year that are not possible to include in the calendar. The calendar allows the operator ample time to plan for scheduled training opportunities that they would like to attend.

Since 2001, when the Capacity Development Strategy was officially implemented, the Training Coalition members have conducted on average approximately 112 water operator continuing education workshops per year. This number includes the four (4) major conferences sponsored by the League of Nebraska Municipalities, Nebraska Section of the American Water Works Association and Nebraska Rural Water Association. Attendance at the offered training varies from a minimum of 6 persons for a one-day session to over 400 for the Nebraska Rural Water Association annual conference held in March each year.

- b. **Nebraska HHS R&L Water Operator Certification Training:** The Department has six (6) different Grades of Water Operator Certification, Grades I through VI. Grades I through IV are certification grades that allow an individual to operate a community or non-transient non-community system. A person with Grade V certification is only allowed to operate a transient non-community system. Grade VI certification is only for testing and repairing backflow prevention assemblies or devices and does not allow for the actual operation of any public water system.

While the Training Coalition handles the majority of training for continuing education, the Department does all of the training for courses associated with initial operator certification, for Grades I through V. The courses vary in length from two (2) days for a Grade IV Water Operator Course (Entry Level) to four and one half (4.5) days for Grades III, II, and I (highest level). Grade IV training is also offered through a correspondence course through which the student completes a series of 10 lessons and then takes the certification exam at the nearest field office. Grade V (lowest level) certification is done strictly through correspondence. The training course curriculum is designed so that the subjects being covered are representative of the class of systems that a particular level of certification would allow a person to operate. Public water systems are classified as Class 1 through 5. A Class 1 system is the most complicated and a Class 5 is the least complicated. Classes 1 through 4 systems are either communities or

non-transient non-community systems. Class 5 systems are transient non-community systems only. A person with Grade V certification cannot legally operate a community or a non-transient non-community system. A certification exam is offered at the end of each training course. If a water operator feels that they are not ready to take the examination, they are under no obligation to do so, and have the opportunity to schedule an exam for a later date at one of the Department's field offices. These exams are offered at the beginning of every month in each field office.

So far in 2005, the Department has conducted eight water operator training courses with two more scheduled before years end. Of the 98 individuals in attendance at the eight training courses, 84 of those successfully completed the examination provided at the end of the course. On average, the Department offers ten (10) water operator training courses every year. In 2005 the Department has offered six Grade IV courses, two Grade III courses, one Grade II Course and one Grade I course. An additional 13 have completed the Grade IV correspondence course of which 13 have successfully completed the examination.

The Department does not conduct Grade VI training courses. These are offered for a fee by the Nebraska Rural Water Association and the Nebraska Environmental Training Center, both members of the Training Coalition. However, the Department proctors the examinations at the end of the Grade VI courses. So far in 2005, there have been four (4) Grade VI courses offered with two (2) more planned before the year's end.

- c. **Water Operator Reimbursement Grant:** As part of the water operator certification requirements established in the 1996 reauthorization of the Safe Drinking Water Act, Congress established a grant to assist small community and non-transient non-community systems (those serving less than 3,300 people) in certifying water operators and to assist those operators in completing their continuing education requirements. Nebraska's reimbursement grant was approved by EPA on July 15, 2002 for a total of \$1,557,400 and was retroactive back to January 1, 2002. Under the work plan submitted to U.S. EPA for this grant, the Department projected the grant to be available from 2002 through 2008. However, depending on how quickly the grant funds are utilized, the Department has the ability to extend the grant availability period through an amended work plan if needed. The actual provisions and eligibility criteria for this grant are included in Attachment F, Water Operator Reimbursement Grant Fact Sheet.

Currently, in Nebraska there are a total of 601 community water systems. Of these 601 community systems, 570 are eligible community water systems and all but 2 of Nebraska's 184 non-transient non-community water systems are eligible for these grant funds. Issuing of reimbursement awards began in August of

2002. To date the Department has approved for reimbursement to eligible public water systems and their operators the following amounts:

Water Operator Training Courses, Certification and Renewals	\$45,800
Water Operator Continuing Education Activities	\$47,500
Total Reimbursed to Eligible Water Systems through 9/10/05	\$93,300

2. **Public Water System Owner Training:** As mentioned earlier in the report regarding the discussion of the League of Nebraska Municipalities, a videotape to be used for the introduction of public water system owners to their responsibilities as owners of a system has been developed. The Department fully recognizes that the weakest link in developing a public water system's capacity is owner ignorance. Consequently, the Department places a very large emphasis on strengthening this link. It is also important to note that because of the events of September 11, 2001 and the passage of H 3448 which required systems serving greater than 3,300 to complete vulnerability assessments by June 30, 2004, the Department realizes that additional information will need to be made available to system owners in a timely fashion.

The original Capacity Development Strategy, developed in August of 2000, envisioned a two-prong approach to board training. The first approach was to develop financial training for owners, and the second approach was to develop a module for teaching board members their legal responsibilities as owners of systems. However, because of limitations on staff and time, and feedback from the members of the 2% Technical Assistance Team, this approach was not going to be feasible and another approach would need to be found. According to those providing field assistance, financial training was being done on a system-by-system basis based on actual needs, and getting board or council members to attend just board training would be impractical without a mechanism to bring them into a common setting. To overcome this problem, in September 2001, the Department, with assistance from the Nebraska Rural Water Association and Midwest Assistance Program, developed a new method to encourage system owners to attend training. The theme of the new training method would be to concentrate sanitary surveys in a confined geographical area to be followed by area training. This training method was also presented again to the Capacity Development Stakeholder Group on August 29, 2002 to be incorporated into the new strategy update.

In October 2001, the Department conducted several public water system sanitary survey inspections on all of the rural schools located in Scottsbluff and Banner Counties. Once these inspections were completed and the resulting correspondence sent to the schools, Midwest Assistance Program was notified of the systems inspected and then contacted the school boards for each district with the offer to set up system board training. As the survey findings gave all of the school districts a common interest, the subsequent training was very well received and attended by 1-2 members from each district board. Encouraged by these results, the Department again applied the same approach with several community

water systems located in Thurston County and the results were again very good and the training well received. However, due to a loss of focus this program has dwindled over the past couple of years. Revisiting this theme during a regularly scheduled 2% meeting in May 2005, the Department, along with Midwest Assistance Program, decided to make a renewed effort in this area. Department field staff have been directed to focus their survey efforts in a localized geographical area to again accomplish the important task of facilitating educational efforts directed at the owners and board members of systems. As of this date, the Department's goal is to have a minimum of at least one of these training sessions in each of the Department's eight public water system field areas over the next year.

Another approach the Department utilized to address system board training needs was through the use of the Water System Security Grants that became available when H 3448 was passed. All of Nebraska's 43 community water systems that serve more than 3,300 customers were required to complete vulnerability assessments and corresponding emergency response plans. The Department used part of this grant money to hold a minimum of 8 regional training sessions throughout the state specifically targeting system owners on issues such as the required vulnerability assessments, security, and their roles and responsibilities. This training, which occurred between January 1, 2003 and May 31, 2003, was done through a joint effort between the Department and Midwest Assistance Program.

In 2004, the Department started to really focus on activities to enhance public water system facility security, even though this particular item is not included in the existing strategy. The Department developed an Emergency Operations Plan Template for systems to use in order to fulfill regulatory requirements. The Department has not mandated the use of this template. Additionally, the Department developed and held numerous training seminars across Nebraska in order to get the word out about water system security and the need for systems to be vigilant in this arena. All Department field staff have undergone the necessary training to become National Incident Management System compliant as a requirement for the State to receive future security grant funding from U.S. EPA.

It is also important to note that there has been one training aspect directed at water system management that has been successful and will continue to be made available by the Department. This training, which is directed at water system operators and managers and done by the Department's Monitoring and Compliance Program, is made available every time a new proposed regulation comes down from the federal level. The program basically takes the proposed rule and puts the proposed requirements and expected impacts in everyday language so that it is easy to understand. This serves two purposes. The first is so that systems can fully understand the potential impact and offer comments. The second is so that there is ample advance warning to systems that may require changes or capital improvements. This program has been very well received by the systems and will continue as long as rules continue to be handed down from the federal level.



## MEASURING THE SUCCESS OF THE CAPACITY DEVELOPMENT STRATGEY

In general the Department believes that our Capacity Development Strategy, aimed at improving the capacity of Nebraska's public water supplies, is successful. There are several criteria that can be looked at which clearly demonstrate the successes we have had.

A comparison of 2000 through 2004 Public Water System Compliance Data shows the following:

### Total Coliform Violations (MCL = Maximum Contaminant Level)

Violation Type	Monitoring Year	Acute MCL	Non-Acute MCL	Major Monitoring	Total
Number of Violations	2000	17	343	153	513
	2001	10	310	180	500
	2002	6	237	167	410
	2003	11	223	184	418
	2004	16	214	160	390
Number of Systems w/violations	2000	17	248	130	395
	2001	9	228	152	389
	2002	6	191	142	339
	2003	11	177	160	348
	2004	14	168	145	327
% Systems w/violations	2000	1.3%	18.5%	9.7%	29.5%
	2001	0.7%	17%	11.3%	29%
	2002	0.4%	14.2%	10.6%	25.2%
	2003	0.8%	13.1%	11.9%	25.8%
	2004	1%	12.5%	10.8%	24.3%

The above figures represent the numbers of systems having total coliform violations. A drop in the number and incidence of Total Coliform Rule violations can clearly be seen. Through continued efforts to get systems that have historical coliform problems to disinfect, the number of total coliform rule violations will continue to drop.

(As of the writing of this report there are 601 community water systems, 559 transient non-community water systems and 184 non-transient non-community water systems in Nebraska for a total of 1,343 public water systems.)

## Issuance of Administrative Orders

Type of AO	Monitoring Year	Number of Orders	Population Impacted
Total Coliform MCL	2000	43	27,075
	2001	17	15,646
	2002	9	2,401
	2003	14	2,090
	2004	17	3,119
Total Coliform Monitoring	2000	34	4,142
	2001	4	352
	2002	2	333
	2003	3	300
	2004	3	156
Nitrate	2000	3	1,385
	2001	2	705
	2002	3	9,352
	2003	10	8,931
	2004	3	701
Organic Monitoring	2000	1	64
	2001	0	0
	2002	1	130
	2003	1	3,001
	2004	0	0

As witnessed by these Administrative Order figures, there has been a substantial reduction in the number of administrative orders issued to systems and the populations impacted by those orders from 2000 through 2004. The meaningful change in the Department during this period was the proactive outreach process of the Capacity Development Strategy and the involvement of the Department with the 2% Technical Assistance team members.

Another measure of success can be seen in the health based violations report. The report run on March 31, 2004 included a total of 479 systems which had a health based violation over a six (6) year period (Federal Fiscal Years 1998 through 2003). This number of systems equates to an average of 5.7 systems receiving a health based violation every month. This same report run on July 25, 2005 showed an overall decrease of 63 systems (13%) on this list, even though the most current report does not cover six (6) full fiscal years (Federal Fiscal Years 2000 through 2005, two (2) months not reported for 2005). The average number of systems receiving a health based violation is 5.1 based on the time frame covered in the report run on July 25, 2005. The two (2) months not included in the report are expected to add only ten (10) more systems to the list. Based on the average number of systems receiving a health based violation every month it is expected that the total number of systems receiving a health

based violation for Federal Fiscal Years 2000 through 2005 will be 426. These health based violation reports cover all regulated contaminants.

In 2004, when the Federal Fiscal Years 1998 through 2003 report was run, there were 607 community water systems. Currently there are 601 community water systems. There were 447 systems on that report that had Total Coliform Rule violations. This number represents 73.6% of all community systems in Nebraska. The report run on July 25, 2005 indicates that, with projected end of Federal Fiscal Year 2005 results, we can expect that 65.4% (397) community systems in Nebraska will be included on the report due to having a Total Coliform Rule violation during Federal Fiscal Years 2000 through 2005. This is roughly an 8% reduction in Total Coliform Rule violations over a two (2) year period, when you are looking at the six (6) year time frame.

In 2004, the Department used the information from the 2004 report to undertake an effort to get systems that were receiving maximum contaminant level violations for exceeding the total coliform maximum contaminant level to start doing maintenance chlorination during the months in which their violations were showing up. The focus was put on those systems that had at least 3 Total Coliform Rule violations that were issued over a time frame of more than one year. The focus was narrowed further to address those systems which had all or most of their Total Coliform Rule violations occur in a three (3) to four (4) month calendar time frame. For example, this would include systems which had violations occur in May, June and July even though the violations were not all from one year. In other words, if there is a specific part of the calendar year when violations are showing up that part of the year would be targeted for use of a disinfectant to keep the system from receiving a violation. Letters were sent to a total of sixty-nine (69) systems suggesting that they disinfect their system during the identified months in which their violations were occurring. The months were specific to each individual system. Of the sixty-nine (69) systems receiving a letter, three (3) have been completely removed from the health based violations report. Of the remaining sixty-six (66) systems still on the list, only thirteen (13) have received a Total Coliform Rule violation since receiving the letter.

Another statistic used to measure success of Nebraska's public water system Capacity Development Strategy is sanitary survey compliance follow-up. The Department has made a strong commitment to reduce the number of overdue deficiency corrections by systems. For every scheduled 2% Technical Assistance Team meeting, the Department compiles an overdue compliance activities report for dissemination to all 2% Technical Assistance Team members. The Department has been doing this since January 2003. On average there have been seventy-six (76) systems on this list at any given time. Some of the systems on the list have been included on more than one list. The reason for supplying this list to the 2% members is so they may provide on-site technical assistance to these systems to correct their deficiencies. In addition in 2001, the Department started requiring that each of the field representatives conduct follow-up inspections on at least 5% of the systems that they have inspected, randomly chosen, to determine compliance with the system's corrective action plan that was returned to

the Department. Information regarding the number of routine sanitary surveys performed can be found in Attachment A included with this report.

As a result of focusing on the strategy objectives we have seen an overall decrease in the number of deficiencies noted during the performance of sanitary surveys by Department field staff. There has also been a tremendous reduction in the number of systems operating without a certified water operator. Several years ago we had dozens of systems operating without certified operators. With the combined efforts of our Training Coalition, Technical Assistance Providers and Department staff responsible for water operator education courses, the number of systems operating without a certified operator has plummeted. Currently that number hovers around five (5) systems operating without a certified operator. This number is largely due to personnel turnover at small community and non-community systems. Additionally, because of increased emphasis on the part of the Department, more systems are in compliance with the regulatory requirements of submitting bacteriological sampling site plans and local emergency plans of operation.

In 2003, the Department reviewed files of systems and found that many did not have their wells registered with the Nebraska Department of Natural Resources, Water Resources Division. Having registered wells enhances a systems ability to protect them from encroachments that may present a pollution hazard. The Department undertook a letter writing campaign to urge systems with unregistered wells to get them registered. It was explained in the letters that it was not only a regulatory requirement but would also give them the necessary legal protection from encroachments. An example of the letter is included as Attachment B with this report. When this project was started there were well over 700 unregistered public water supply wells in Nebraska. This number has been reduced to 159 wells.

All of the above statistics show a growing tendency that Nebraska's Capacity Development Strategy is having a positive impact on developing and enhancing Nebraska's public water systems technical, financial and managerial capacity. By incorporating the changes to the Strategy suggested at the September 1, 2005 Capacity Development stakeholder group meeting, the Department feels that the strategy will be even more effective in accomplishing the strategy's goals. It is also important to note that the stakeholders felt it would be prudent for the Department and the stakeholders to meet annually to discuss the strategy and any potential changes based on identified needs. The Department fully agrees and the addition of an annual stakeholder meeting will be incorporated into the strategy.

In conclusion, the Department and all of its public water system partners have worked hard to implement Nebraska's public water system Capacity Development Strategy and believe that we are meeting the intent and goals of the strategy. Not only are the Department and its partners working to lower the number of public water system violations, but we are also striving to provide the public water systems the necessary information and tools to achieve long-term self-sufficiency. Only by doing this will Nebraska's public water systems be able to achieve, on a continuous basis, compliance

with U.S. EPA's existing and future public water system regulations. That is the ultimate measurement of success!

This report will be disseminated to the public via the Department's website (<http://www.hhs.state.ne.us/enh/pwsindex.htm>). We will also supply the major media sources with information about the website and the fact that this report may be obtained there. A hard copy will be maintained at the Department offices at the Nebraska State Office Building located at 301 Centennial Mall South in Lincoln, Nebraska. A copy of this report in its entirety shall be provided to any group or individual calling or writing the Department to request a copy.